

**Abstract of Disclosure**

Process related materials including photoresist and associated residues are removed from a substrate by exposing the substrate at least to one form of ultraviolet radiation-activated reactive gas phase radical to activate reactions between the gas phase radicals and the process related materials. The substrate may be exposed to the activating UV energy. Alternatively, the substrate may be exposed to a first reactive gas phase radical, from a first source, in conjunction with at least one of a selected gas and a second species of gas phase radical from a second source. The first and second source outputs may be combined prior to entering the process chamber or may enter the processing chamber separately. Selective limitation or elimination of substrate exposure to UV radiation is described.